

CHAIR CANING AND SEAT WEAVING

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Chair Caning

Cane, Rush, and
Related Techniques
of Seat Weaving

Cathy Baker

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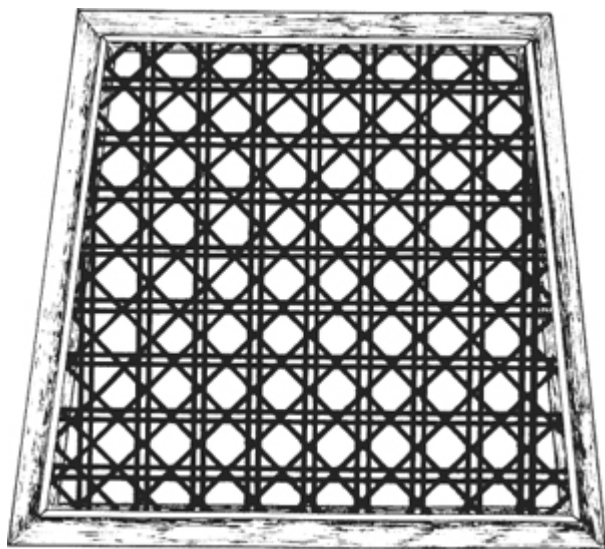
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Introduction

Would you like to use that antique chair, but can't find anyone to reweave the broken seat?

The answer is simple. Do it yourself. The materials are inexpensive, the steps you will read in this bulletin are simple, and the results are extremely satisfying.

This bulletin provides both the beginner and the skilled crafts-person with a simple step-by-step guide to the various techniques of seat weaving. Most of the methods described are traditional, but others are relatively modern and provide ideas for variations you can try. All of the projects can be completed with simple tools that are found in most home tool boxes and supplies that can be purchased at a nominal cost.



Cane Seating

The type of cane used for chair seating is made from the outside bark of the rattan, a climbing palm of the jungles of Borneo, Sumatra, and Malaysia. When the rattan reaches the desired length and diameter, it is cut and gathered for export. The outside bark is stripped from the vine and machine-cut into various widths and thicknesses. The best cane has a brightness or luster and is smooth and shiny on one side. It should be strong but pliable, and unbroken where the eyes, the joints where the leaves were attached, were shaved smooth.

Chair cane is normally purchased in hanks. These are bunches of about 1,000 feet. Each hank will cover a woven area of about four square feet. Smaller amounts may be purchased, but the length of these will vary depending on the individual supplier.

In addition to regular cane, a strip of binder cane is needed. This strip should be about two sizes wider than regular cane, and one and one-half times the length of the perimeter of the chair seat.

Size of Chair Caning	Approx. Size of Drilled Holes	Approx. Distance Apart Center to Center
Carriage	$\frac{1}{8}$ " or less	$\frac{5}{16}$ " to $\frac{3}{8}$ "
Superfine	$\frac{1}{8}$ "	$\frac{3}{8}$ "
Fine fine	$\frac{3}{16}$ "	$\frac{7}{16}$ " to $\frac{1}{2}$ "
Fine	$\frac{3}{16}$ " to $\frac{1}{4}$ "	$\frac{1}{2}$ " to $\frac{9}{16}$ "
Narrow medium	$\frac{1}{4}$ "	$\frac{9}{16}$ " to $\frac{5}{8}$ "
Medium	$\frac{1}{4}$ "	$\frac{5}{8}$ " to $\frac{3}{4}$ "
Common	$\frac{5}{16}$ "	$\frac{3}{4}$ " to $\frac{7}{8}$ "

Hand Caning — A Six-Way Pattern

Hand caning a chair is not difficult but care and patience are required. The work is done in stages. These must be started and completed in order, as each stage locks the previous one in place.

This six-way pattern is a traditional method used in the

restoration of old as well as modern chairs. It may be worked in one or two sizes of cane, excluding the binder. If you chose to use two sizes, work the first four stages in one size and the last two stages in a slightly larger cane. This will give the seat a little extra strength.

The size of cane to be used is determined by the diameter and spacing of the holes in the individual chair. The previous chart may be used as a guide.

Tools

1. A small hammer or mallet
2. A utility knife
3. Scissors or side cutters
4. Awl or ice pick
5. A clearing tool. Or use a small screwdriver, about two inches long, with the blade cut off, or with a two-inch, small-headed nail
6. Round-nosed pliers (optional)
7. Pegs. Golf tees may be used as temporary pegs, but you will need permanent ones as well. These may be whittled down from softwood, cut from a dowel, or purchased ready-made
8. A bar of paraffin (optional). If you wax the underside of the cane during weaving, it will slide along easier
9. A drill and drill bit (optional). Only if you need to remove the old pegs
10. A towel or rag to wrap the damp cane in while in use

Procedure

Stage 1

1. Clear the old cane from the seat. Cut around the inside of the seat frame to remove the center of the seat. Cut away the cane

over the holes.

2. Knock the pegs out of the holes with a clearing tool and hammer. If the pegs have been glued or varnished in, drill them out.
3. Repair the chair if necessary.
4. Prepare the cane. Put a few lengths of cane into tepid water for about ten minutes, then wrap them in a slightly damp cloth. This will keep them from drying out while you are using them. Take out one piece at a time to use, and leave the rest wrapped.
5. Find the center holes in the front and back rails of the chair. Mark them with temporary pegs. If there is an even number of holes in these rails, mark the two center holes. The marked holes should be aligned from front to rear.
6. Remove the peg in the back rail. Pull a long piece of cane down through the hole. If you have marked two holes, thread the cane down through the left hole. When you have reached one-half of the cane's length, peg it in place with a temporary peg. Half of the cane is now on top of the back rail and half of it is underneath the rail. See [Figure 1](#).

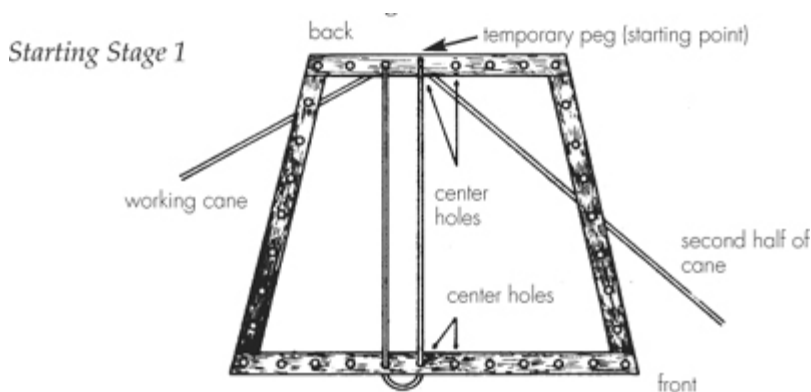


fig. 1

7. Use the cane that is on top of the rail first. Bring the strand

forward to the front rail; remove the peg in the corresponding marked hole, and thread the cane down through it. Make sure that the cane is straight and firm, but not too tight, and that the shiny, smooth side is up. If it is twisted, you will not be able to correct it later. Refer to [Figure 1](#).

8. Peg the cane in place with a temporary peg. Peg each hole after you have run the cane through it so that it is held firmly in place while you go on to the next hole. The pegs can be moved along as you work. The only pegs that should be left in place are the ones holding the ends of the cane in place which are left under the seat.
9. Thread the cane up through the next hole to the left on the front rail, and bring it back to the corresponding hole in the back rail. Continue in this manner until all of the holes in the back rail, except the corner holes, have cane in them. Refer to [Figure 1](#).
10. If you have extra holes in the front rail, complete them as shown in [Figure 2](#). If at any time you run out of cane, peg a new piece in the corresponding hole in the opposite rail to the one you have just finished with a temporary peg. This may be removed and replaced when you run later pieces of cane through the hole. Always leave about a three-inch end below the seat.

Cane threaded on a shaped seat with corner holes left open

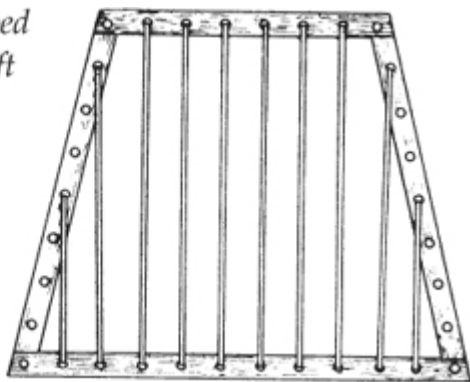


fig. 2

Stage 2

11. Stage 2 is worked from side to side. The steps are exactly the same as in Stage 1. The cane is run on top of the first stage canes. Again leave the corner holes open. See [Figure 3](#).

Stage 3

12. Stage 3 repeats Stage 1. It is worked on top of Stage 2. As you work, try to move the cane from Stage 1 slightly to the left so that the cane in this stage will lie just next to it on the right and not on top of it. This places the cane in the proper position for Stage 4. See [Figure 4](#).

Layout: Stage 2

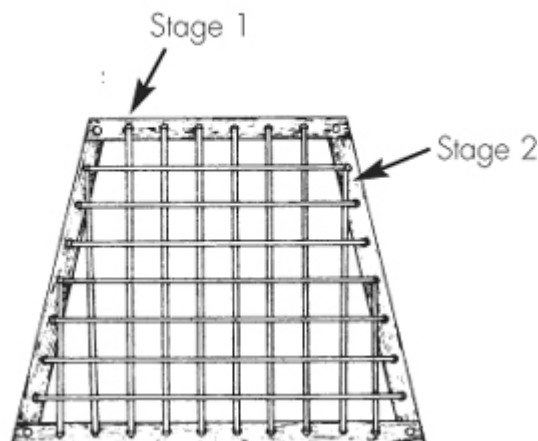


fig. 3

Layout: Stage 3

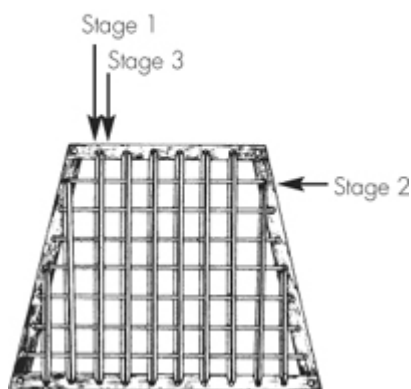


fig. 4

Stage 4

13. This stage is woven from side to side working from the front to the back. Start at the right side, as you face the front of the chair. Peg a piece of cane into the first hole from the corner in the front. It will help if you wax the back of the cane for this stage and the next two for ease in weaving.
14. Weave the cane over the first and under the second cane of each pair of vertical canes. Make sure that it is placed to the front of the horizontal canes of Stage 2. Do not pull the cane through more than four vertical pairs at a time or you may break them. See [Figure 5](#).

Layout: Stage 4

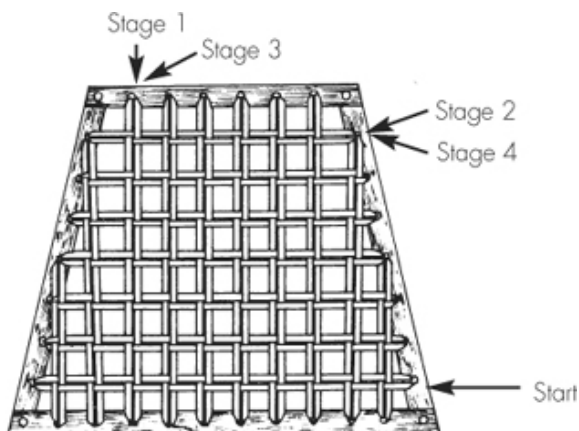


fig. 5

15. When you reach the left side rail, bring the cane down through the corresponding hole, peg it, and then bring it up through the adjacent hole. You can clear the holes a bit with your awl.
16. Weave the cane back to the right, under the first and over the second cane of each pair of vertical canes. Continue in this manner until you have filled all of the holes in the side rails, except the corner holes. Refer to [Figure 5](#). Remember to place the canes to the front of the horizontal canes of Stage 2.

Stage 5

17. This is the first diagonal stage. It may be woven with the same size cane as you used in the first four stages or with a slightly larger cane. For example, if I started with fine cane, I would now use fine cane for these last two stages.

While you are weaving run the cane through your fingers to straighten it. Do not let it twist during this stage.

As you face the chair, start this stage by pegging a piece of cane into the right front corner hole. Leave a three-inch end below the seat. See [Figure 6](#).

18. Weave the cane under stages one and three, the vertical strands, and over stages two and four, the horizontal strands. Weave toward the back left corner. Unless your chair is perfectly square the cane will probably not come out at the back left corner hole. It should be threaded down whichever

hole it reaches after forming a true diagonal. The hole will be on the left side rail or the back rail. See [Figure 6](#).

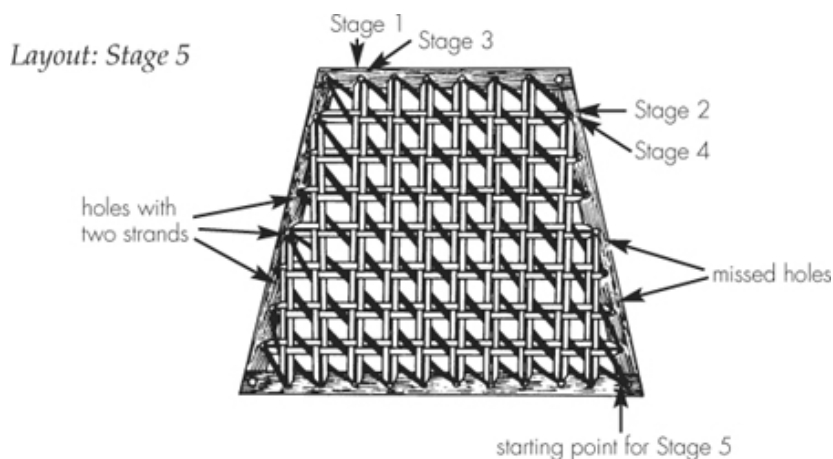
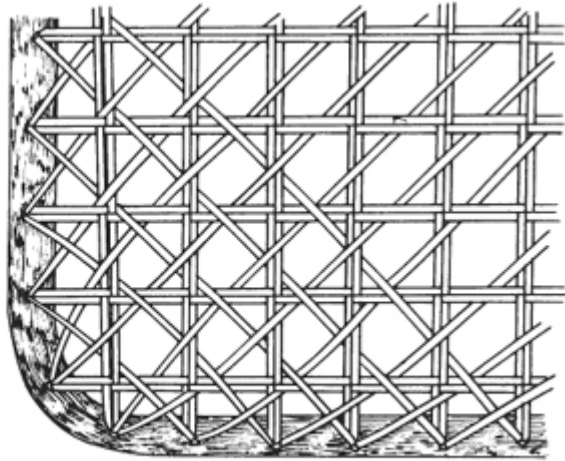


fig. 6

19. Up until this stage all of the other holes have two strands of cane in them. On this stage and stage 6, you must work out your diagonals so that you get two strands of cane in each corner hole. It is important not to miss any holes in the front or back rails. If you have to make adjustments, they should be done on the side rails. On the standard type of dining room chair, there are usually two holes that are missed on one side and two holes with two strands of cane in them on the other side. See [Figure 6](#). If you are working a chair with rounded corners you may have to put more than one pair of canes into the corner holes, see [Figure 7](#).



Placement of cane strands on a chair with rounded corners

fig. 7

20. Finish the first half of the chair. The final strands of cane will go across the corners if you have worked the pattern correctly. Start in the center again and work the other half of the seat. Refer to [Figure 6](#).

Stage 6

21. Stage 6 is the reverse of Stage 5. Peg a piece of cane into the front left corner and work toward the back right corner. Weave the cane over stages 1 and 3, the vertical canes, and under stages 2, 4 and 5. The two horizontal stages and one diagonal stage. The adjustments on the sides will be reversed. Where you skipped holes in Stage 5, you will now put in double strands of cane and where you had double strands you will now skip the holes. See [Figure 8](#).

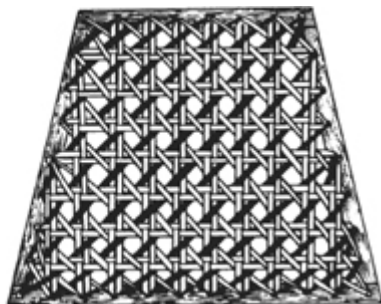


fig. 8

Finishing

There are two methods of completing a hand-caned seat. The first method is to peg every hole. Many old chairs are done this way. You will need tight-fitting pegs that are a little shorter than the depth of the rails. Put the peg in the hole and hammer it lightly. With the aid of your clearing tool, set the top of the peg just below the surface of the rail. Never hammer directly on the seat. You may damage it. When every hole has been pegged, cut the ends of the cane underneath the seat and even with the seat.

The second method of finishing a seat is to put on a binder of wider cane to cover the holes.

1. With this method you must peg every other hole, leaving open the corner holes and the two holes next to them. Always count the holes from the corners in case you have an even amount of holes. This will allow you to put two pegs together or two holes in the center of the rail. Mark the holes to be pegged with temporary pegs. See [Figure 9](#).

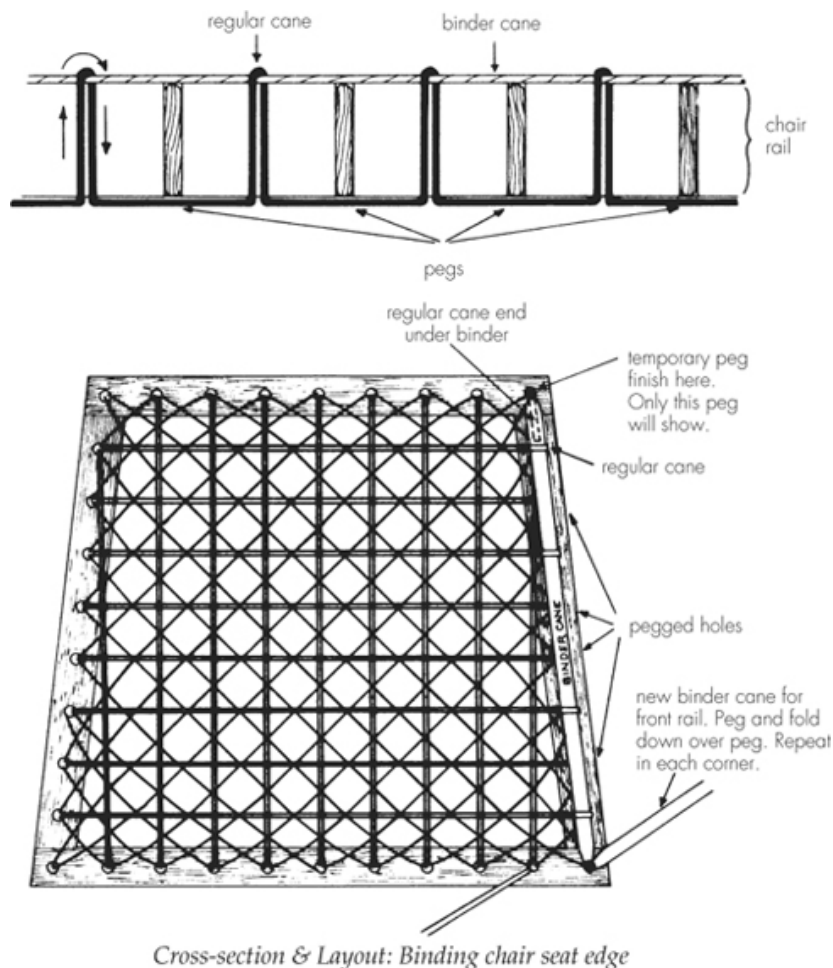


fig. 9

2. All of the ends of the cane left underneath the seat must now go into one of the marked holes. To do this thread the ends up or down the non-peg holes and into the adjacent or pegged hole. If you have cane that is threaded up a peg hole, be careful that it does not form a loop underneath the rail when you put in your permanent peg.
3. When all of the marked holes are permanently pegged, cut off the ends of the cane closely on the top and bottom of the rail.

4. Prepare four lengths of binder cane and a long length of the cane you used to weave the seat. Each length of binder cane should be a little longer than the length of the rails.
5. Thread about four inches of the regular cane down through the hole next to the corner hole at the back of the right rail, and then up through the corner hole. You should now have the short end of the cane coming out of the corner hole and the long end coming out of the adjacent hole.
6. Lay the short end down over the holes in the right side rail.
7. Thin the end of one of the lengths of binder cane.
8. Push the thinned end of the binder cane down into the corner hole so that it will lie over the short end of the regular cane. Peg it in place with a temporary peg. Refer to [Figure 9](#).
9. With the long end of regular cane, go over the binder cane and down through the same hole. This will hold the binder firmly in place.
10. Pass the long end of regular cane along underneath the rail to the next open hole. Go up this hole, over the binder and down through the same hole. You may need to clear the holes a bit with your awl. Be careful not to split any of the cane that is already in the holes. Refer to the cross-section view of the chair rail in [Figure 9](#).
11. Continue this threading until you reach the corner. The regular cane should be in the last hole before the corner hole. Take the regular cane across the corner underneath the seat and come up in the first after the corner hole on the front rail. See the right front corner of the chair seat in [Figure 9](#).
12. Trim and thin the end of the binder cane and put it into the corner hole.
13. Take a new piece of binder cane, thin the end and put it into the same corner hole at right angles to the first piece. Peg the ends in place with a permanent peg. See the right front corner of the chair in [Figure 9](#).
14. Lay the new piece of binder down over the holes in the front

rail. It should cover the corner peg that you just put in. Continue binding across the front rail and complete the corner as you did before. Work the left hand and back rail in the same manner.

15. When you have completed the back rail and have reached the starting point, remove the temporary peg. Thread the end of the regular cane up the corner hole and back under the last binder cane so that it is covered.
16. Trim and thin the end of the binder cane and push it into the corner hole. Peg it in place with a permanent peg. This is the only peg that should show.
17. To maintain the strength and tautness of the seat, dampen the underside once a month and let it dry in a warm place. The cane will darken naturally with age, but a stain, oil, or varnish may be applied to speed up the process.

A Four-Way Pattern

This pattern is easier and quicker to complete but is not as strong as the six-way pattern. It makes an attractive seat for a small stool or a chair that does not get a lot of use.

The first two stages of this pattern should be worked in a cane slightly larger than the cane used in the last two stages. This will give the seat a little extra strength. The tools used for this pattern are the same as the tools that were used in the six-way pattern.

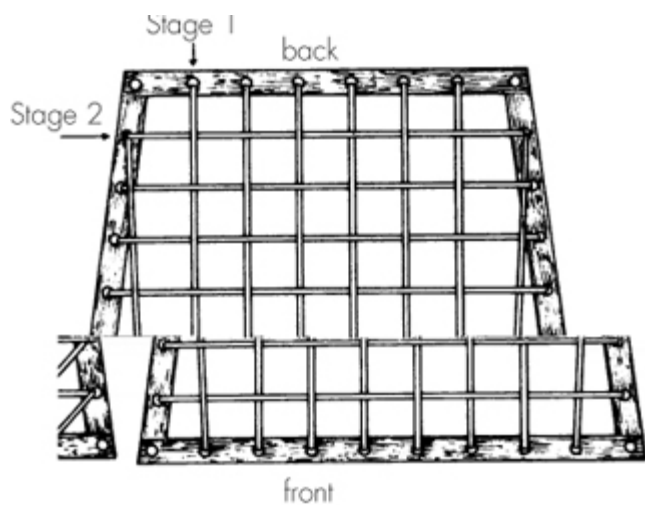
Procedure

Stage 1

1. This stage is the same as Stage 1 of the six-way pattern. Remember to leave the corner holes open. Refer to [Figures 1, 2, and 10](#).

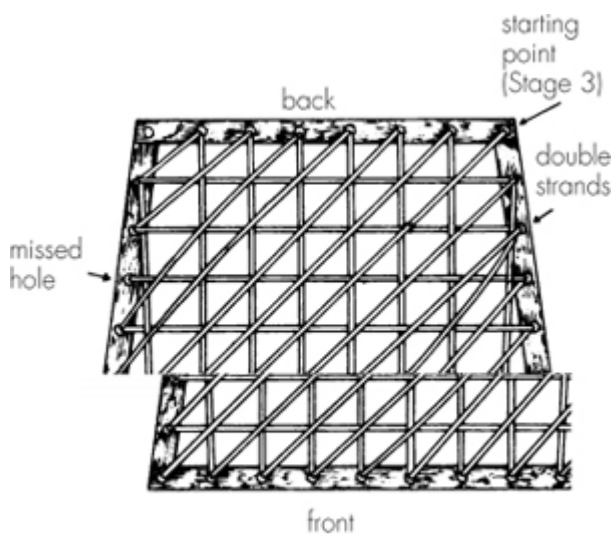
Stage 2

2. Work this stage from one side to the other. Start in the center of the right side rail in the same manner as you started Stage 1. Interweave each horizontal row over and under the vertical canes of Stage 1. See [Figure 10](#).



Stages 1 & 2

fig. 10



Stage 3

fig. 11

Stage 3

3. This is the first diagonal stage. Use the smaller cane. Start this stage by pegging the end of the cane into the back right corner hole. Leave three inches below the seat.
4. To form the diagonals lay the cane over the crossings of the two previous stages. If you are working on a shaped seat, adjust the pattern on the side rails as you did in the six-way pattern. Leave the corner holes open. See [Figure 11](#).

Stage 4

5. This is the second diagonal stage. Start the cane in the back left corner hole. Weave the cane over the first diagonal and under the crossing of the last three stages. Continue this way until you reach the right side or front rail. Go down whichever hole is necessary to form a true diagonal, up the adjacent hole and weave back again. Continue weaving until you have completed one-half of the seat. Go back to the center and finish the other half of the seat. You will have only one strand of cane in each corner hole. See [Figure 12](#).
6. Finish the seat with a binding. Refer to the second method of finishing in the six-way pattern and to [Figure 9](#).
7. To maintain the strength of the seat, dampen the underside once a month and let it dry in a warm place. The cane will darken with age, but a stain, oil, or varnish may be applied to speed up the process.

Layout: Stage 4

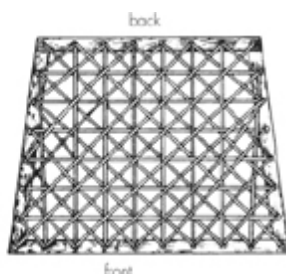


fig. 12

Pre-Woven Cane Webbing

This type of caning material is usually used in the restoration of modern furniture where there are no holes through which the cane can be drawn. There is a small groove around the edge of the seat into which the pre-woven cane is driven and held in place with a reed spline.

The cane webbing can be purchased in widths from twelve to thirty-six inches and in any length desired. To determine the size that you need for your chair, measure from the outside edges of the spline at the widest part, front to back, and side to side. Add one inch to these measurements for driving into the groove. For example, if you have a seat that is 12" x 12", you would purchase a piece 13" x 13".

To purchase the proper size spline, measure the length of the spline needed and width of the groove.

Tools

1. Hammer
2. Wood chisel slightly smaller than the width of the groove
3. Wooden wedge
4. Utility knife
5. Scissors or side cutters
6. Fine grit sand paper
7. White glue — Elmer's or any water-soluble glue

Procedure

1. Cut away the old cane. Remove the old spline by tapping lightly around its outside and inside edge with a chisel and hammer. Pry it out gently with the chisel. Be careful not to damage the seat. Sand away any remaining debris. This will ensure that the new cane and spline will adhere to the surface. See [Figure 13](#).

Preparing chair seat



fig. 13

2. Cut the pre-woven cane one-half inch larger than the outer edges of the groove.
3. Soak the pre-woven cane in tepid water for about ten minutes. Remove it from the water and let it drip for two minutes before you use it. Soak the spline in tepid water for about twenty minutes.
4. Place the pre-woven cane on the seat frame. Line up the horizontal canes with the straight edge of the front rail. If you have a rounded rail, line up the horizontal canes with the seat joints. See [Figure 14](#).

Attaching pre-woven cane

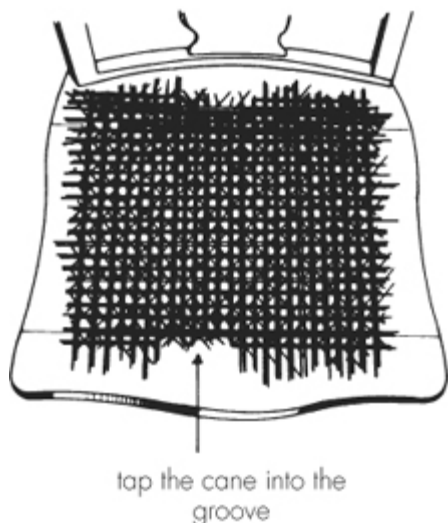


fig. 14

5. Attach the cane to the seat. Start by tapping an area of cane about four inches long into the center of the back groove with your blunt wooden wedge and a hammer. Move to the front of the chair and straighten and pull the cane taut. Tap a four-inch area into the groove. Move to the back rail and tap a few more inches in place. Do the same to the front. Continue with this alternate method until the front and back rail are completed. Use the same method to attach the side rails. See [Figure 14](#).
6. Cut the spline to fit the seat. The ends should be about $\frac{1}{4}$ " longer than needed. They will be cut exact later.
7. Apply a thin, even bead of glue into the groove on top of the cane.
8. Insert the spline into the groove and tap it down tightly with a wooden wedge and hammer. The corners may be mitered if you wish.

9. Trim away the excess cane carefully.
10. Let the glue set for twenty-four hours before you use the chair.
If the seat is not tight after twenty-four hours, wet the under side of the cane and place it near heat or in the sun until it dries. This should tighten it.
11. To maintain the seat, dampen the underside once a month and let it dry in a warm place. The seat may be stained, oiled, or varnished.

Rush Seating

Natural rush is a tufted, reedy marsh plant of the Flagor Cattail family. The individual reeds vary in color from dark to lighter shades of green, to orange, yellow and brownish tan colors. They grow from six to ten feet tall and are harvested every other year. The growers usually have two beds so that the rushes can be cut yearly.

Rush can be purchased by the bolt or bale which weigh from thirty-five to fifty pounds, or by the pound. It takes about two and one-half pounds to cover an average chair, 14" wide and 12" deep.

Natural rush must be prepared before it can be used. Sort out thirty or forty strands of about the same thickness. This is judged by the thick or butt end of the rush. Put them into a tub of tepid water for about eight hours or until they will twist and bend without breaking. Run them, tip end first, through your fingers or a clothes wringer to remove excess water and air and to press them flat. Twist one to three strands at a time into a long continuous cord. See [Figure 15](#). The best cord is uniform in width, $\frac{6}{32}$ " being the average. This usually takes some practice. If you have an antique chair to restore, it is desirable to use natural rush to maintain its authentic appearance.

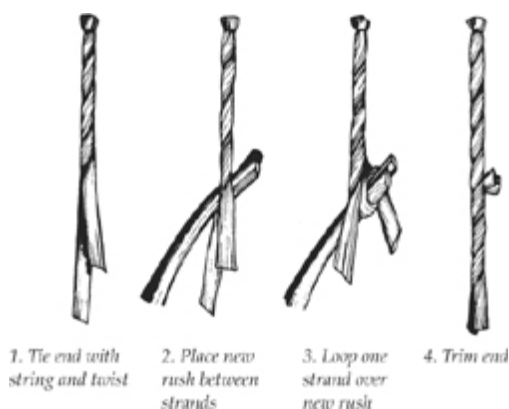


fig. 15

If you have to restore a less valuable piece, fibre rush is preferable. Fibre rush is a synthetic material made from a very tough grade of paper which is twisted and colored to resemble natural rush cord. It is easy for the beginner to handle because it doesn't have to be soaked or twisted. It is less expensive than natural rush, just as strong and, to the average person, it looks the same. Fibre rush is also sold by the pound. It takes about two and one-half pounds to complete an average chair.

The pattern used for rush must be worked on a chair with raised corners and solid rungs. This pattern may also be worked in sea-grass and cord seating.

Tools

Natural Rush

1. Scissors
2. Steel rush or upholsterer's needle
3. Ruler
4. String
5. Cardboard
6. Paint brush
7. Varnish
8. Newspaper (optional)
9. Pencil (optional)

Fibre Rush

1. Hammer
2. Three- or four-ounce tacks
3. Scissors or utility knife

4. Ruler
5. Cardboard
6. Paint brush
7. Thinned white shellac
8. Pencil (optional)
9. Newspaper (optional)

Procedure

1. Prepare the seat frame. Remove old rush, tacks, and dirt. Repair any defects in the chair.
2. Coil a few lengths of rush so that it is easy to handle.
3. The weaving of square or rectangular seats and the weaving of shaped seats, seats with longer front rails than back rails, differs a bit. If you are restoring a shaped seat, you will need to square the design with some extra rush on the front of the chair seat. To do this, measure the front and back rails. Divide the difference in half and mark each half off from each corner post on the front. Refer to [Figure 16](#) for steps 3 through 20.
4. As you face the chair, fold in half a length of rush about $3\frac{1}{2}$ times as long as the front rail. Tack it at the fold to the inside of the left side rail about two inches from the left front corner. If you are working with natural rush, do not fold the strand in half. Tie one end in place with a string.

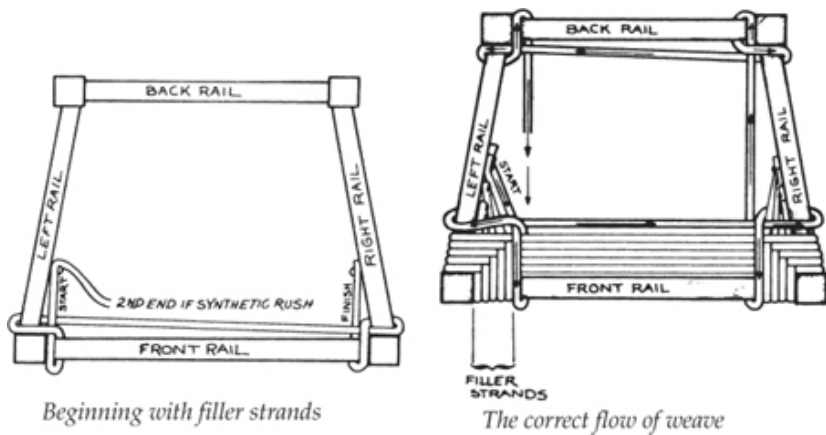


fig. 16

5. Bring one end if you are using synthetic rush or the long end if you are using natural rush over the front rail. Make sure that the rush is straight and taut throughout the process.
6. Wrap the rush around the front rail and bring the end up over the previous strand and the left side rail as close to the corner as possible. The strands of rush will start to form a pattern of 90° angles. These angles should be kept as true as possible throughout the whole process or the pattern will be thrown off.
7. Wrap the rush around the left side rail and bring the end over the right side rail.
8. Wrap the rush around the right side rail and bring the end over the rush running horizontally with the front rail, and over the front rail.
9. Wrap the rush around the front rail as close to the corner as possible. Depending upon which type of rush you are using, tack or tie the end two inches from the corner leg on the inside of the right side rail. Trim the excess rush.
10. Start the process over again with the second half of new strand of rush. Add about five inches to every new strand and

continue in the same manner until the inside of the marked areas are filled.

11. You are now ready to start the full pattern. This would be your starting point if you were doing a square or rectangular seat. Tack or tie one end of a coiled length of rush to the inside of the left-rail. Refer to [Figure 16](#).
12. Take the coiled end of the rush over and around the left side of the front rail.
13. Come up in the center of the seat and make a 90° angle to the left. Go over the previous strand and the left rail.
14. Bring the coiled end over to and around the right rail.
15. Come up in the center of the seat and make a 90° angle toward the front of the chair. Go over and around the previous strand and the front rail.
16. Bring the coiled end back to the back rail and go over and around it.
17. Come up in the center of the seat, make a 90° angle to the right. Go over and around the previous strand and back end of the right rail.
18. Bring the rush over and around the back end of the left rail.
19. Come up in the center of the seat and make a 90° angle toward the back. Go over and around the back rail.
20. Bring the rush forward over the front rail and start the pattern again. When your length of rush runs out, add a new strand by tying a square knot underneath the center of the seat.
21. When you have about five inches of space left on the side rails, cut cardboard to the side pattern shapes and insert it into the space between the top and bottom weaves. See [Figure 18](#). This will help maintain the shape of the seat. You may also insert some newspaper stuffing at this time if the rush strands are too loose. Do not overstuff the chair or it will become uncomfortable to sit on.
22. Continue weaving until five inches remain unwoven on the front and back rails. Cut cardboard to the front and back pattern shapes and insert it between the woven layers. Insert newspaper if needed.
23. Cut off the ends of the cardboard points that extend into the center of the seat.

24. When the weaving is completed on the side rails, there will still be some space to fill in on the front and back rails. You must now bridge the gap. To do this, bring the rush up through the center of the seat and over and around the front rail. Bring it up through the center again and over and around the back rail. Continue this figure eight pattern until the center is filled in. See [Figure 19](#). If you are using natural rush, knot the final end to the strand opposite on the underside. Tuck it away with your rush needle. If you are using fibre rush, tack the final end to the back rail underneath the seat. Cut off the excess fibre.

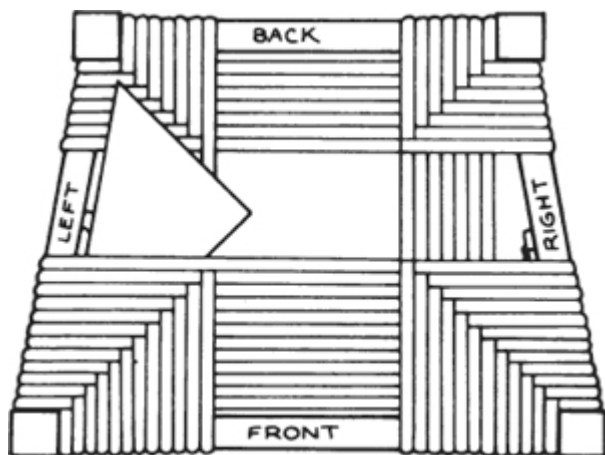


fig. 18
Partially completed seat with cardboard insert

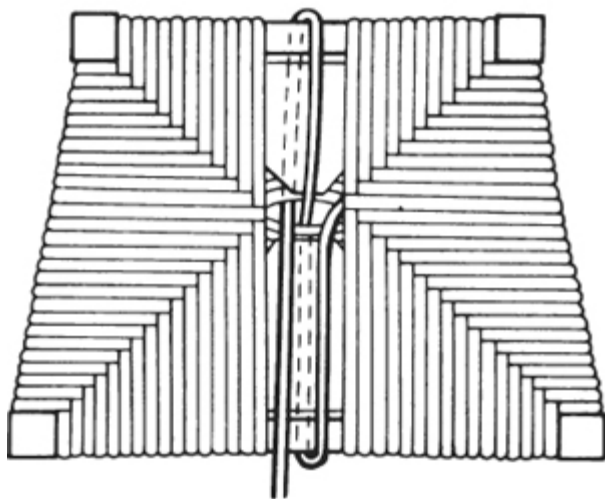


fig. 19
Finishing center of rush seat

24. When the weaving is completed on the side rails, there will still be some space to fill in on the front and back rails. You must now bridge the gap. To do this, bring the rush up through the center of the seat and over and around the front rail. Bring it up through the center again and over and around the back rail. Continue this figure eight pattern until the center is filled in. See [Figure 19](#). If you are using natural rush, knot the final end to the strand opposite it on the underside. Tuck it away with your rush needle. If you are using fibre rush, tack the final end to the back rail underneath the seat. Cut off the excess fibre.
25. If your seat is made of natural rush, finish it by applying a clear varnish. If you have used fibre rush, apply two to three thin coats of shellac.

Sea Grass and Cord Seating

Sea grass and cord seating must also be used on a chair with

raised corners.

Sea grass is a Chinese product made from twisted grass which resembles rope. It is sold by the coil in various thicknesses and colors.

Cord may also be purchased in coils varying in thicknesses and colors.

Any cord may be used as long as it is strong and does not stretch.

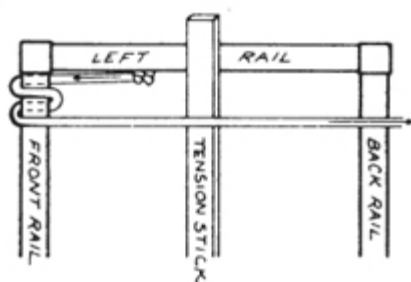
Tools

1. Hammer
2. Three- or four-ounce tacks
3. Scissors or utility knife
4. A dowel $1\frac{1}{2}$ " in diameter for a tension rod. The dowel should be longer than the width of the seat
5. Ruler
6. Pencil
7. Upholsterer's needle

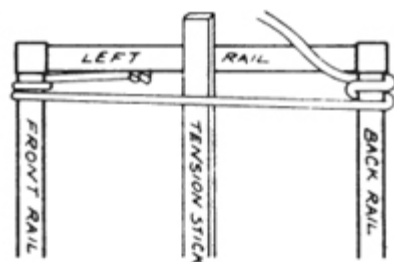
Procedure

1. Prepare the seat frame. Remove old material, tacks, and dirt. Repair any defects in the chair.
2. Coil a few lengths of sea grass or cord so that it will be easy to work with.
3. Put the tension stick across the center of the seat. See Step A in [Figure 20](#).

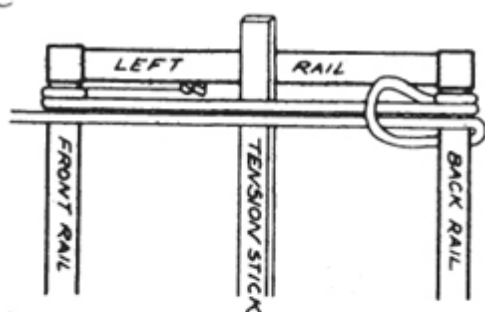
A



B



C



D

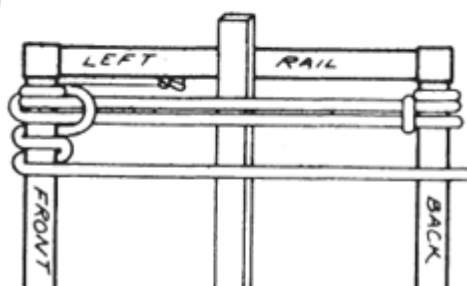


fig. 20
Starting the warp — steps A–D

4. Start the warp, the cords that run from front to back. Knot one end of the cord and tack it to the inside of the left rail. Bring the coiled end under the front rail. See Step A [Figure 20](#).
5. Wrap the cord around the front rail once and bring the coiled end over the tension stick to the back rail. See Step A in [Figure 20](#).
6. Make one wrap around the back rail and thread the end up between the left rail and the first warp cord. See Step B in [Figure 20](#).
7. Bring the end over the warp cord and back down and under the back rail. This movement should form a loop over the warp cord. Now bring the end over the back rail and thread it through the loop. See Step C in [Figure 20](#).
8. Bring the end over the tension stick to the front rail. Go over the front rail. Be sure to keep the warp cords even and taut. There should be about the same amount of tension on each cord. Refer to Steps C and D in [Figure 20](#).
9. Thread the end up between the left rail and the first warp cord and make a loop over both warp cords. See Step D in [Figure 20](#).
10. Bring the end down under the front rail and make another wrap around it. Repeat the process. This should give you two cords through each loop and a short wrap between each pair of warp cords. If you have to add new cord lengths, make sure that the knots are on the inside of the rails so that they will not show. Refer to Step D in [Figure 20](#).
11. When you have finished the warp, use the upholsterer's needle to thread the end of the cord under some of the warps on the inside of the rail and tack it in place. Remove the tension stick. You are now ready to start weaving, inserting the cord from side to side. The process of attaching the strands to each side rail is the same as you just used for the warp.

12. Pick a pattern. See A, B, and C in [Figure 22](#). Patterns B and C are variations of the basic pattern A. Start the weave on the front of the right rail and read the pattern from right to left. Each square represents one pair of warp or weave strands. The black sections designate that you weave over the warp strands and the white squares designate that you weave under the warp strands.
13. Thread one end of new coil under some of the wraps on the front rail, when this is done, tie a knot in the same end and tack it in place.
14. Bring the coiled end under the right rail and wrap the cord around the rail once. Refer to A in [Figure 20](#) and to [Figure 21](#).
15. Make one wrap around the left rail and bring the end up and over the woven strand and back down and around the left rail and through the loop.
16. Weave the end back cover and under the same strands. When you reach the right side, go over the rail and bring the end up and over the two strands to form a loop. Make another wrap around the rail and weave through to the left rail. Follow the weaving pattern closely.

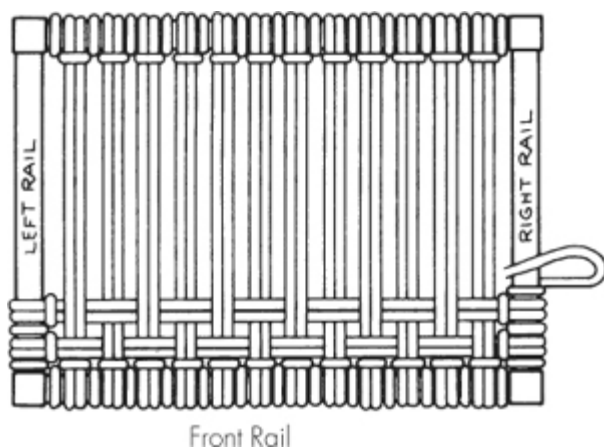


fig. 21

17. When you have finished the pattern, thread the end of the cord through some of the wraps and tack it in place.

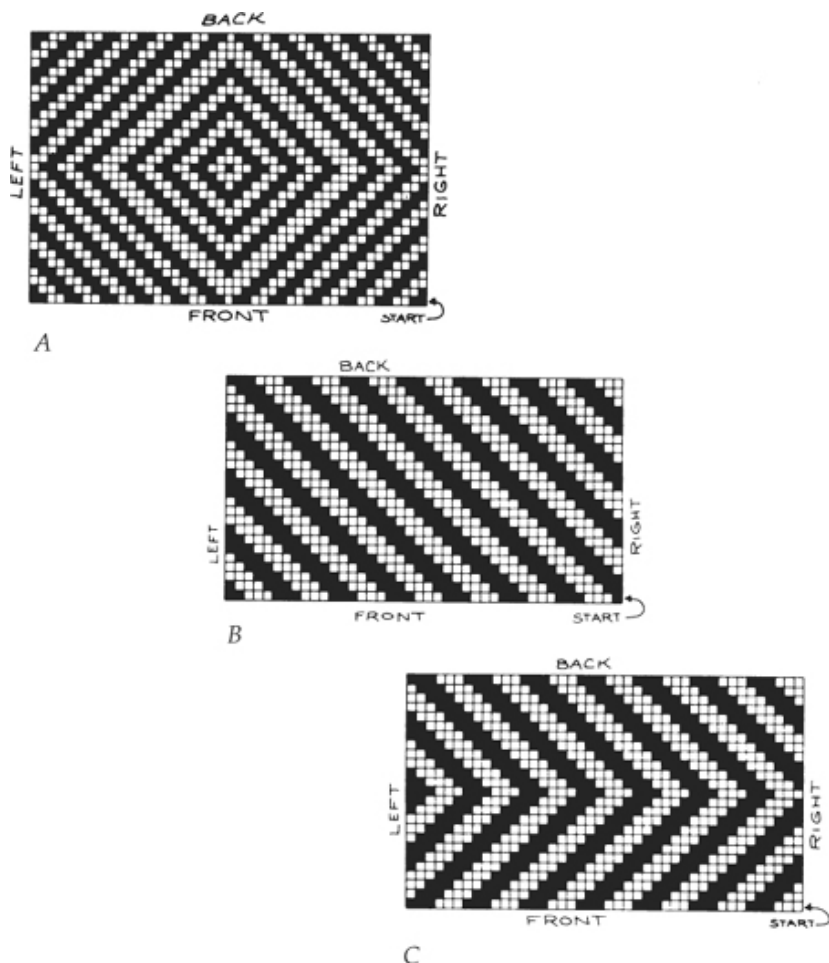


fig. 22
Patterns for seagrass and cord seats

Splint Seating

Splint seating is usually used on chairs with raised corners of early American design. During colonial times, splint was hand cut out of various hardwoods such as hickory, oak, or ash.

Today several types of prepared splint are readily available, flat reed splint, oval reed splint, ash splint and a synthetic, flat fibre

splint.

Flat reed splint is cut by machines from the larger sizes of the rattan core. It is flat on both sides. The top is smoother than the bottom. The individual strands are usually more than eight feet long, and are available in various widths. Flat reed splint is sold in hanks or one-pound bundles. One bundle is enough to weave an average chair seat, fourteen inches wide and twelve inches deep.

Flat oval reed is also cut from the rattan plant and is flat on the bottom and oval on the top. It is also available in different widths and is sold in hanks or one-pound bundles. One bundle will cover an average seat.

Ash splint is hand-cut from select second-growth timber. The individual lengths of splint are from six to eight feet long. The number of different widths available will depend upon the individual supplier. Ash splint is sold in hands, one-pound bundles or coils. It takes a one-pound bundle or three coils to cover an average chair seat. Ash splint is best to use if you are restoring an antique chair.

Flat fibre splint is made from a tough grade of paper fibre and should only be used on indoor chairs. It is sold in one-pound bundles. One bundle will cover an average seat.

Tools

1. Hammer
2. Three- or four-ounce tacks
3. Ordinary stapler
4. A spring clamp
5. A ruler
6. Very fine sandpaper, if you are using one of the natural splints
7. A can of stain or equal parts linseed oil and turpentine for finishing a natural splint, or thin shellac for fibre splint

Procedure

The Herringbone Pattern

1. Clear the chair of all of the old splint, tacks, and staples. Repair any defects in the chair frame.
2. Prepare the splint. Soak four to six strands at a time in tepid water for about one-half hour. As the strands are taken from the water, replace them with others so that you will always have a ready supply of damp, pliable splint. Remove a length of prepared splint to work with. Determine which is the right and wrong side of the strand. To do this, bend the splint. The right side will remain smooth, while the wrong side will splinter. Eliminate this step if you are using flat fibre splint.
3. Tack one end of the length of splint to the inside edge of the back rail. Allow about four inches to overlap the rail. See [Figure 23](#).
4. Bring the free end under and over the left rail. [Figure 23](#).
5. Bring the end across to and over and under the right rail, and then back under and over the left rail. See [Figure 24](#).
6. Continue wrapping both side rails, moving back and forth until you reach the end of the strand. The warp strands should be straight and firm but not too tight, as they will shrink as they dry. Refer to [Figure 25](#). To add new splint, clamp the last wrap in place, overlap the two ends underneath the seat and staple the two ends together with four or five staples. The warp strands are always put on first, no matter which way they run on the chair.
7. Continue wrapping and attaching new splint until both side rails are covered. Tack the end to the inside of the front rail. Leave about a four-inch overlap on the rail. Dampen the seat to keep it pliable.
8. Start the weave. If the front rail is longer than the back rail, you will need to square the design with filler strands. Measure the front and back rails. When you have found the difference, divide it in half and mark each half off from each corner post on the front rail. See [Figure 26](#).

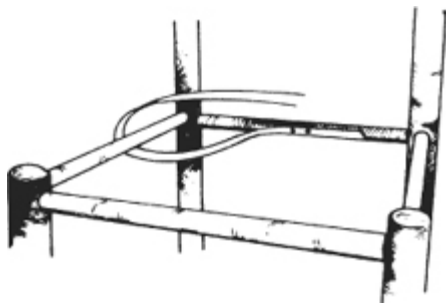


fig. 23

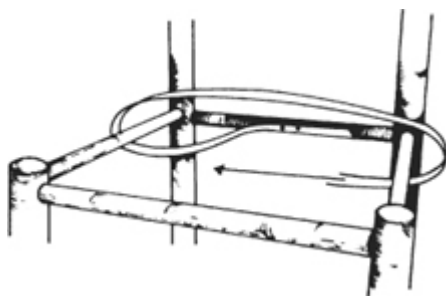


fig. 24

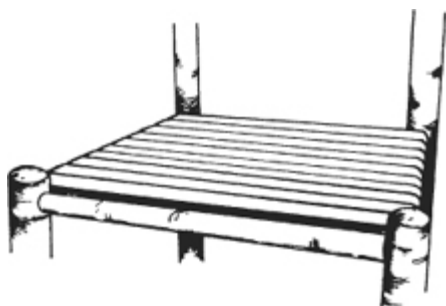


fig. 25

9. Select a new strand of splint about three times as long as the width of the chair and begin weaving on the front left corner.

Weave over the first warp strand and under three; over three; and under three until you reach the corner. Pull the end through until you have about an equal amount of splint hanging out on each end of the weave. The length of this will depend on the individual chair. The end in the back corner will hang under the chair. Let the ends hang until all of the filler strands are in place. An average chair usually requires two filler strands to square the design to start with and two or three to end with. This will vary depending upon your chair. See [Figure 26](#).

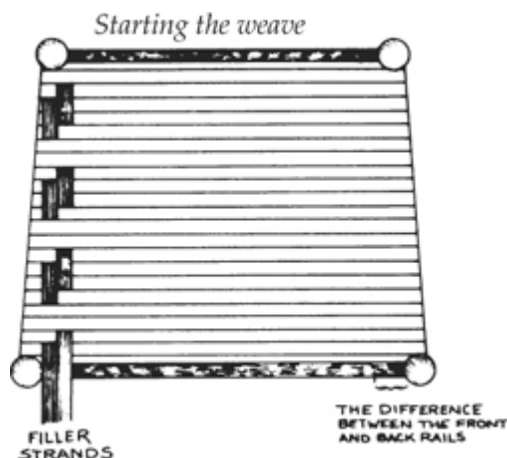


fig. 26

10. Begin the second filler next to the first filler strand on the front rail. Weave over two and under three, over three, under three until you reach the back corner. Equalize the hanging ends as you did in Step 9. [Figure 26](#).
11. When the chair is filled and the pattern is squared off, turn the chair sideways and weave the two hanging ends into the bottom of the seat. The pattern should be the same as the top of the seat. The two ends should lie directly on top of each other and overlap the width of the seat. The overlapping will hold them in place.
12. Now that the fillers are in place on the left side of the seat, you can start a continuous weave. Start the third length of weave next to the second filler. This strand will start at the front rail

and be woven on the bottom of the seat first. The line of the weave will go over three and under three until you reach the back rail. Stop there. Do not pull the end through.

13. Weave the other end of the strand over three and under three on the top of the seat until you reach the back rail. Go over the back rail and continue to weave the pattern as shown in [Figure 27](#). When you come to the end of the splint strip, cut it to end right behind the front rail on the bottom of the chair. [Figure 28](#). To add a new length of splint, weave it from the front rail to the back rail directly on top of the previous piece. This overlapping will keep both ends firmly in place. Follow [Figure 27](#) for the rest of the pattern.

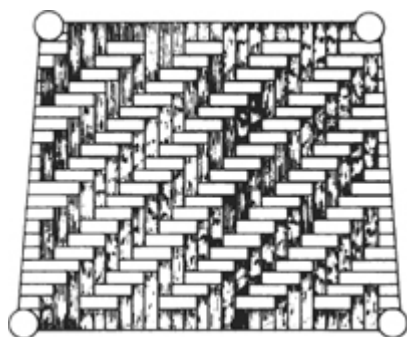


fig. 27

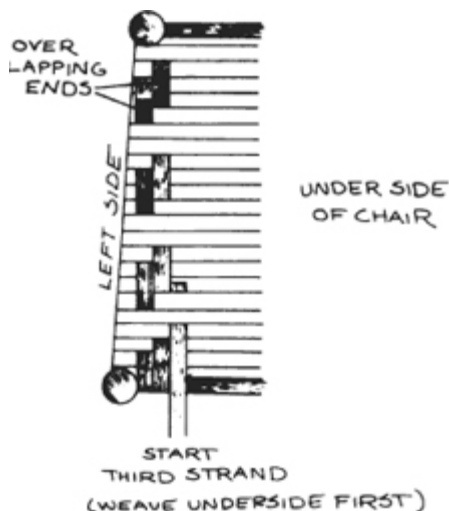


fig. 28

14. If you are working a square or rectangular chair, start the continuous weave right away. Begin at the left front corner. Weave the strip in on the bottom first over one and under three, over three, and under three until you reach the back rail. Stop there. Now weave the other end over one and under three, over three and under three on the top of the seat. When you reach the back rail, go over it and weave over two and under three, over three and under three on the bottom of the chair. Do the same on the top. Now look at [Figure 26](#). Find the third strand in from the left front corner and follow the pattern from there. It should go over three and under three evenly across the chair seat shown.
15. When the back rail is filled, weave the final end in on the bottom of the seat. If you need fillers, weave them in the same manner as you did on the left side. Refer to steps 9 and 10 and to [Figure 26](#).
16. If you have used natural splint, cut and sand away the hairy residue on the seat surface. Allow it to dry for twenty-four hours and stain or oil it.
17. If you have used fibre splint, apply two to three coats of thin shellac.

Suppliers

Cane and Basket Supply Company

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www.canebasket.com

The H. H. Perkins Company

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www.hhperkins.com

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